SIEMENS

ARCOSKOP

AX

Planning Guide

System

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English

Print No.: SPR2-250.891.01.05.02

Doc. Gen. Date: 04.02

Replaces: SPR2-250.891.01.04.02

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all	all	02
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all	all	05

Document revision level

The document corresponds to the version/revision level effective at the time of system delivery.

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General Notes

- With distribution of these revision level, all preceding planning guides, Speed Infos (PG's) and drafts lose their validity.

- All layouts issued by the Planning Departments must bear a note referring to the installation and delivery conditions of Siemens Medical Engineering. The installation and delivery conditions must be submitted with the layouts.

- Unless otherwise specified, all dimensions are indicated in "mm".

⧫ - The symbol indicates a change (see revision status).

◔ - Orientation points
Points specific to system components to which reference is made when positioning system components to each other or in the room.
The isocenter of a radiographic system is always illustrated as the orientation point.

- Fixpoints
Clearly marked points on system components, installation ceiling, walls or floor on which cable outlets are located.
Illustration in the drawings: octagon with letter/number-combination.
The cable lengths specify the maximum fixpoint distances and thus the maximum distances between the individual system components.

- Room height
The room height is the distance measured from the top surface of the floor to the bottom surface of the ceiling structural elements (Unistrut rails) (bottom surface of drop ceiling).

- Room lighting
According to DIN 68 68-57 (international standard in preparation), the lighting in rooms in which image playback devices (monitors) are used for diagnosis, the following requirements must be met:

  adjustable, no anti-glare screen, reproducible adjustment of the lighting (e.g. dimmer with scale),

  no glare or reflection from windows, lights and light boxes in the standard working position of the monitors.

Hotline + 49 (9191) 18 - 8080

Safety

- The provisions of the relevant fire safety regulations must be observed for the premises.

- The system has been developed according to EN 60601 - 1.

- Minimum dimensions (e.g. room heights, safety distances) indicated in the planning guides are marked "min."

- Basic strength against electromagnetic sources of interference.
  Result of lightning discharges.
  The protection targets of the different lightning protection areas up to the unit connection are also specified in the IEC 1024, DIN 48810, VDE 0675 and in the DEMVT recommendations.

System Configuration

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Arrangement of an ARCOSKOP in the Individual OR Disciplines, in Accordance with other Technical Equipment in the OR

The OR discipline is critical for placement in the OR.

Generally speaking, e.g. hospitals can perform different OR disciplines in the same OR room.

In certain hospitals, other specialties are strongly practiced, and it is then reasonable to assign specific OR rooms for the special disciplines.

Based on the description (see blow), the OR discipline and setup of the ARCOSKOP can be seen.

This means that the ARCOSKOP is universally applicable in a general hospital, but will be used exclusively in the special or university clinic for the specialized application.
Here, the following points must be taken into consideration:

a) Short access path to the patient

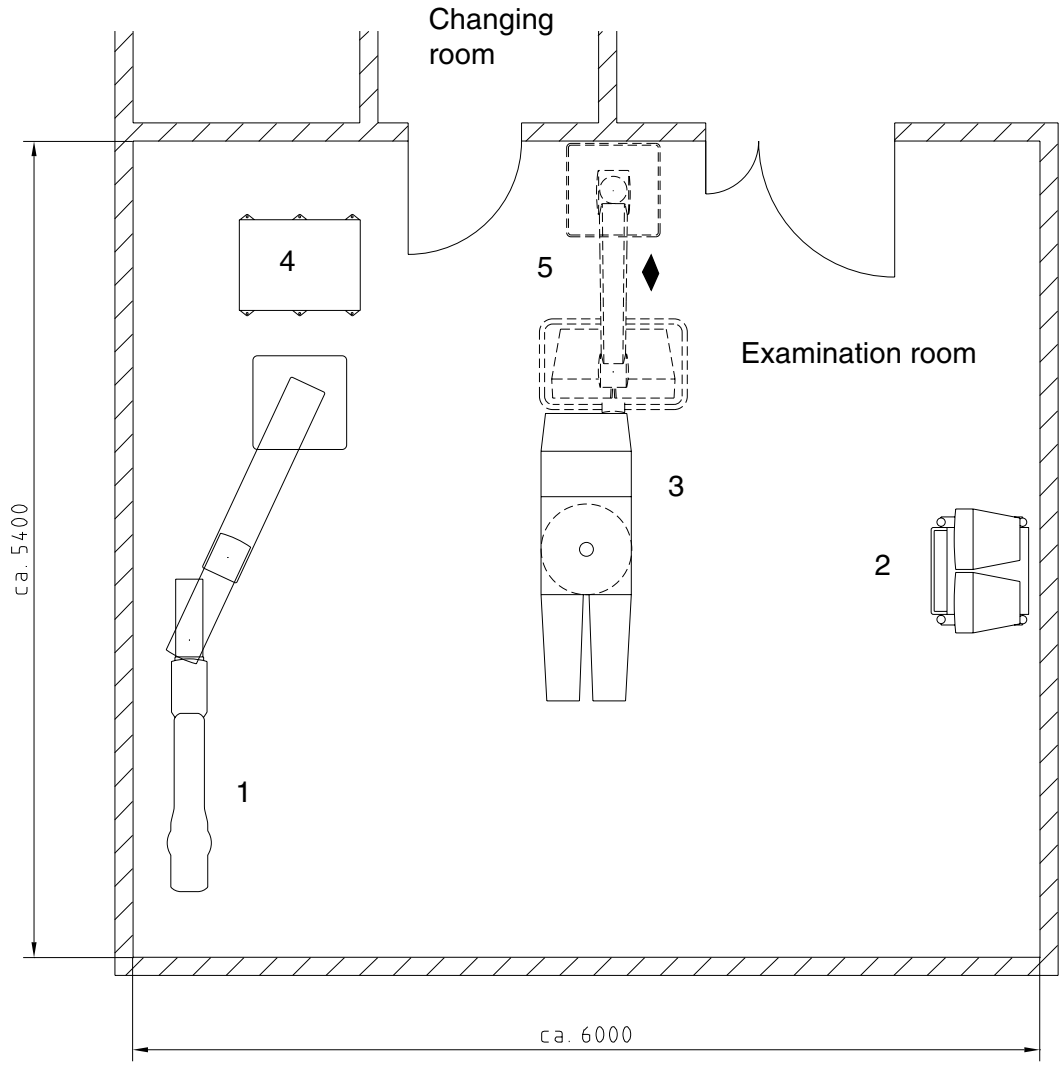
b) OR table rotations should be avoided as much as possible.

The following is the possible positioning of the ARCOSKOP to the OR table (at the foot end or at the side) for the listed disciplines (see also room planning examples).

General surgery	foot end
Vessel surgery	foot end
General surgery (spec. gall bladder) or e.g. Endoscopy	at the side
Heart surgery	at the side
Urologic surgery (Kidney transpl.)	at the side
Neuro surgery	at the side

Room Planning Example 1

General Surgery (e.g. Endoscopy)



1 : 50

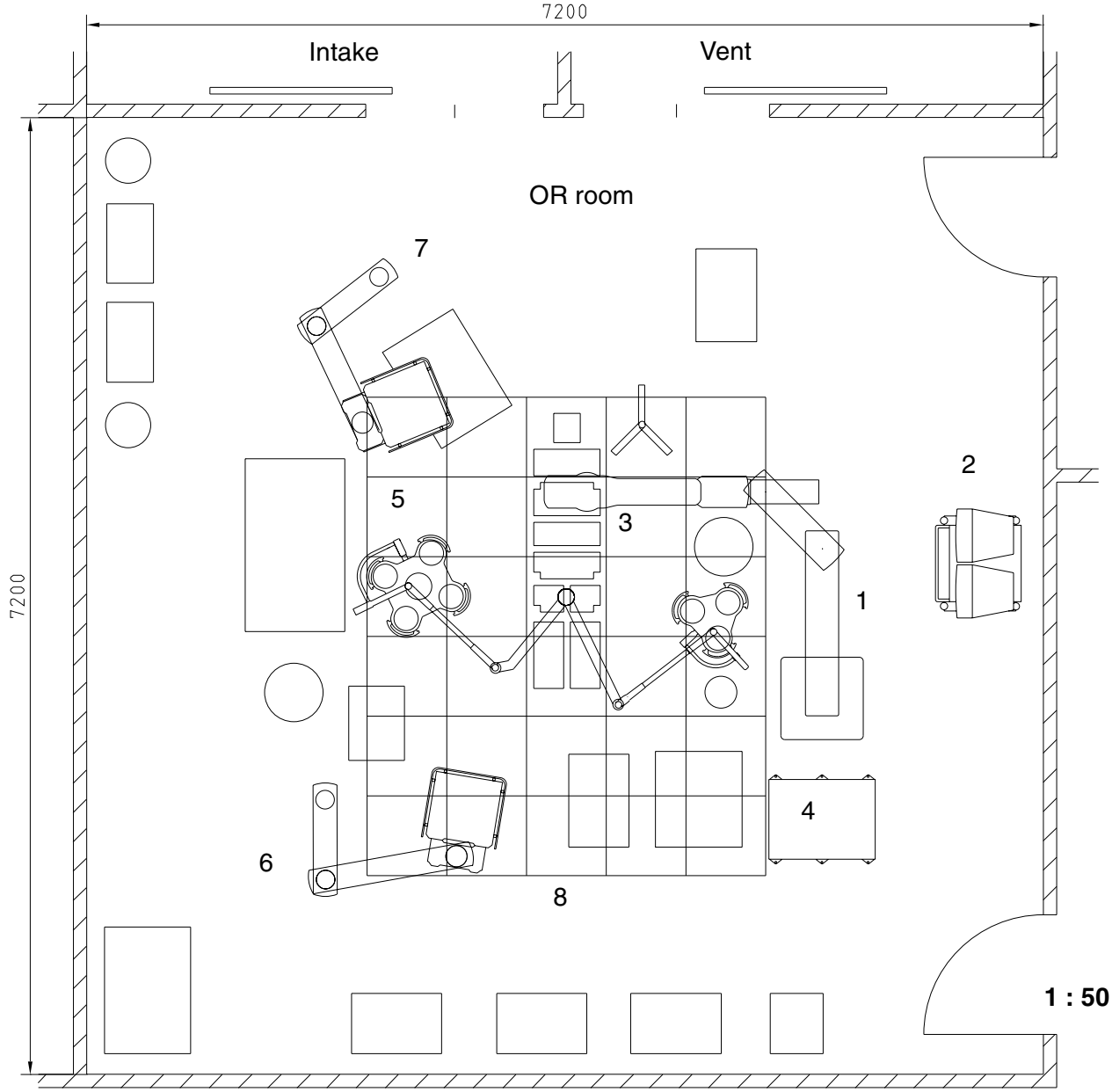
1 ARCOSKOP
2 Monitor cart for the ARCOSKOP
3 Examination table
4 Electronics box
♦ 5 Monitor stand for ARCOSKOP (option)

Room Size

	Area	Length	Width	Height
Examination room size	32.4 m^2	6.0 m	5.4 m	♦ 2.84 - 3.34 m

Room Planning Example 2

Heart Surgery



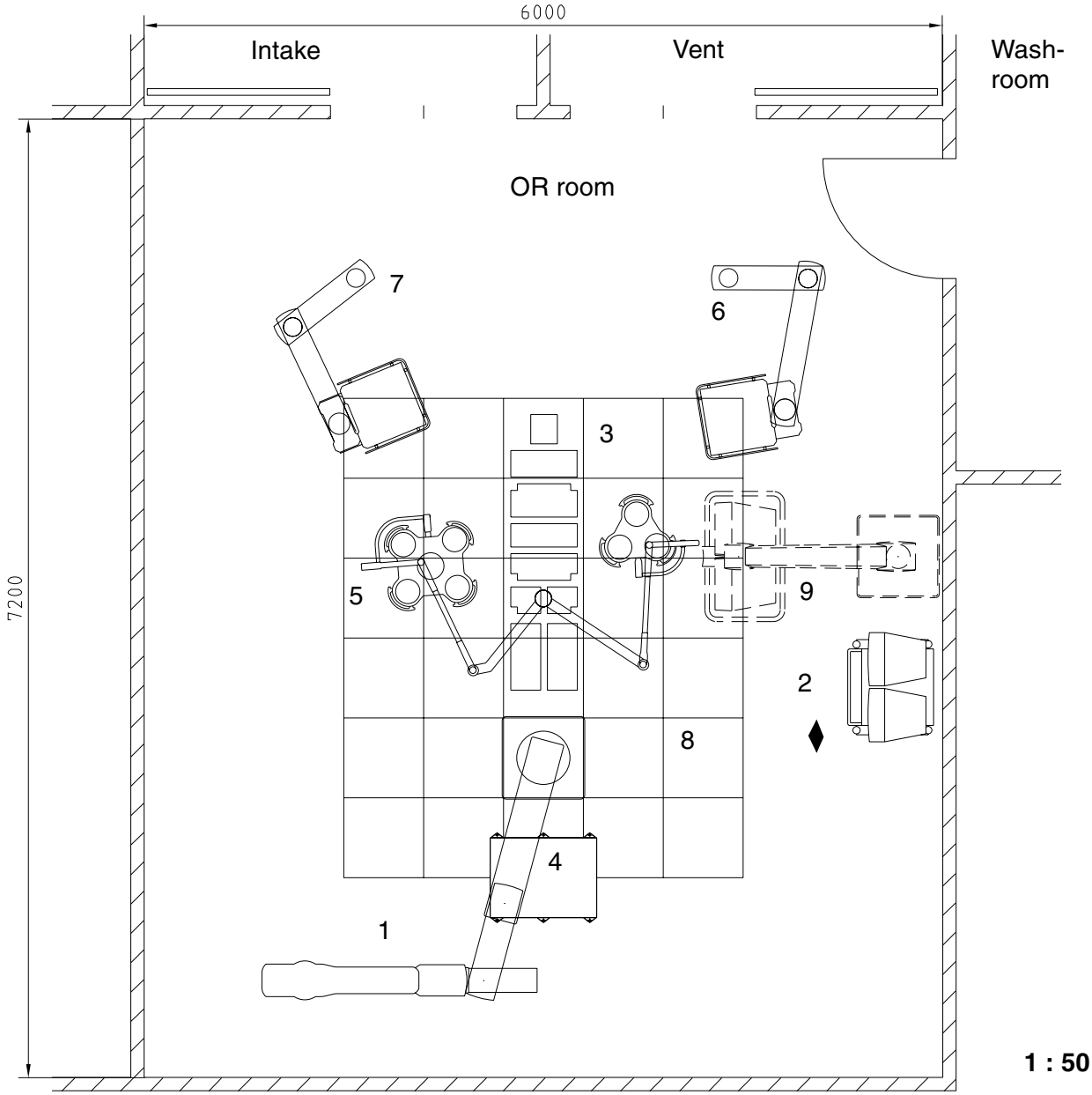
1 ARCOSKOP
2 Monitor cart for the ARCOSKOP
♦ 3 OR table (preferably with floating tabletop)
4 Electronics box
5 Surgery lamp
6 HF surgery rack
7 Anaesthesia rack
8 OR air intake ceiling vent

Room Size

	Area	Length	Width	Height
Examination room size	51.8 m^2	7.2 m	7.2 m	♦ 2.84 - 3.34 m

Room Planning Example 3

General Surgery / Vessel Surgery

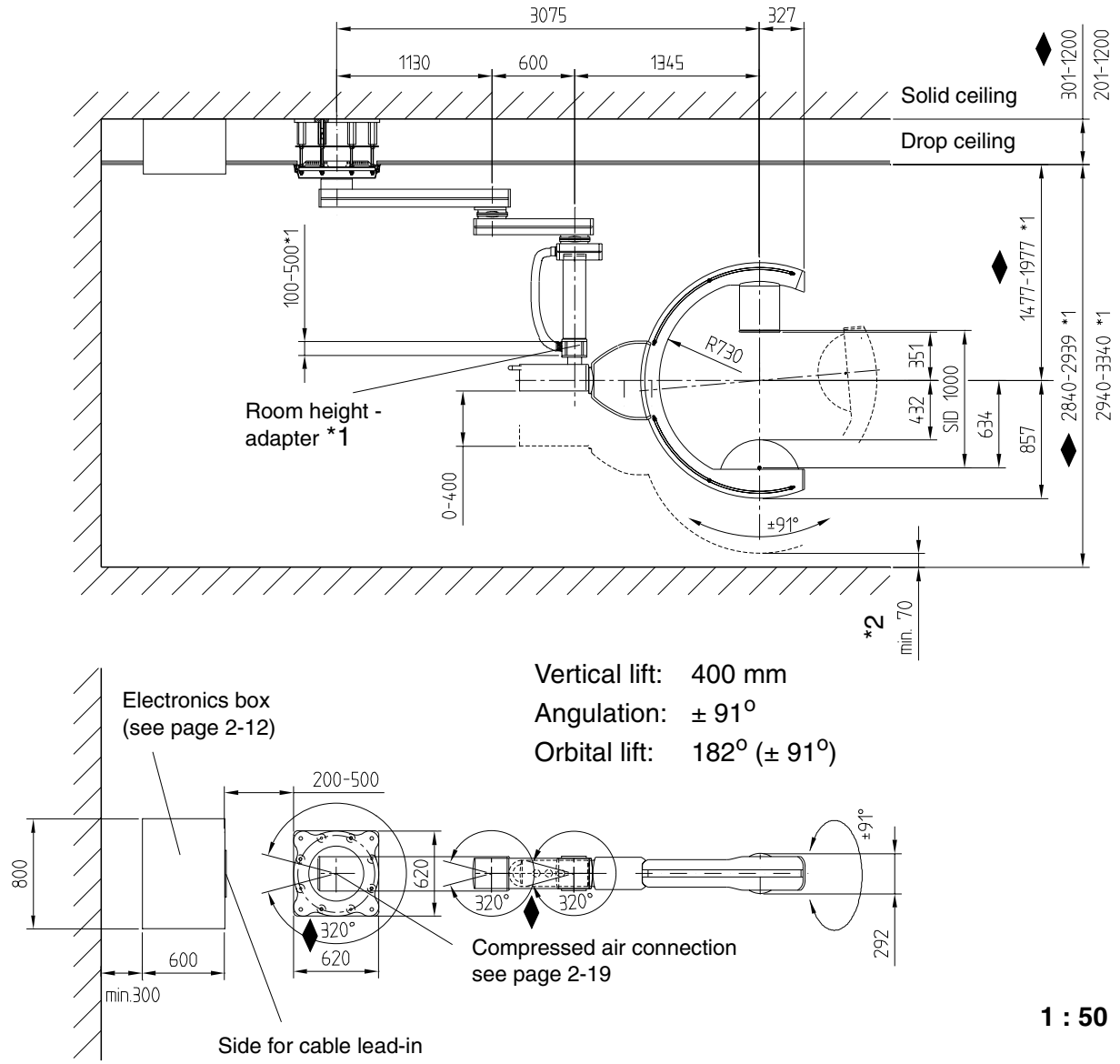


1 ARCOSKOP
2 Monitor cart for the ARCOSKOP
♦ 3 OR table (preferable with floating tabletop)
4 Electronics box
5 Surgery lamp
6 HF surgery rack
7 Anaesthesia rack
8 OR air intake ceiling vent
9 Monitor stand for ARCOSKOP (option)

Room Size

	Area	Length	Width	Height
Examination room size	43.2 m^2	6.0 m	7.2 m	♦ 2.84 - 3.34 m

Dimensions



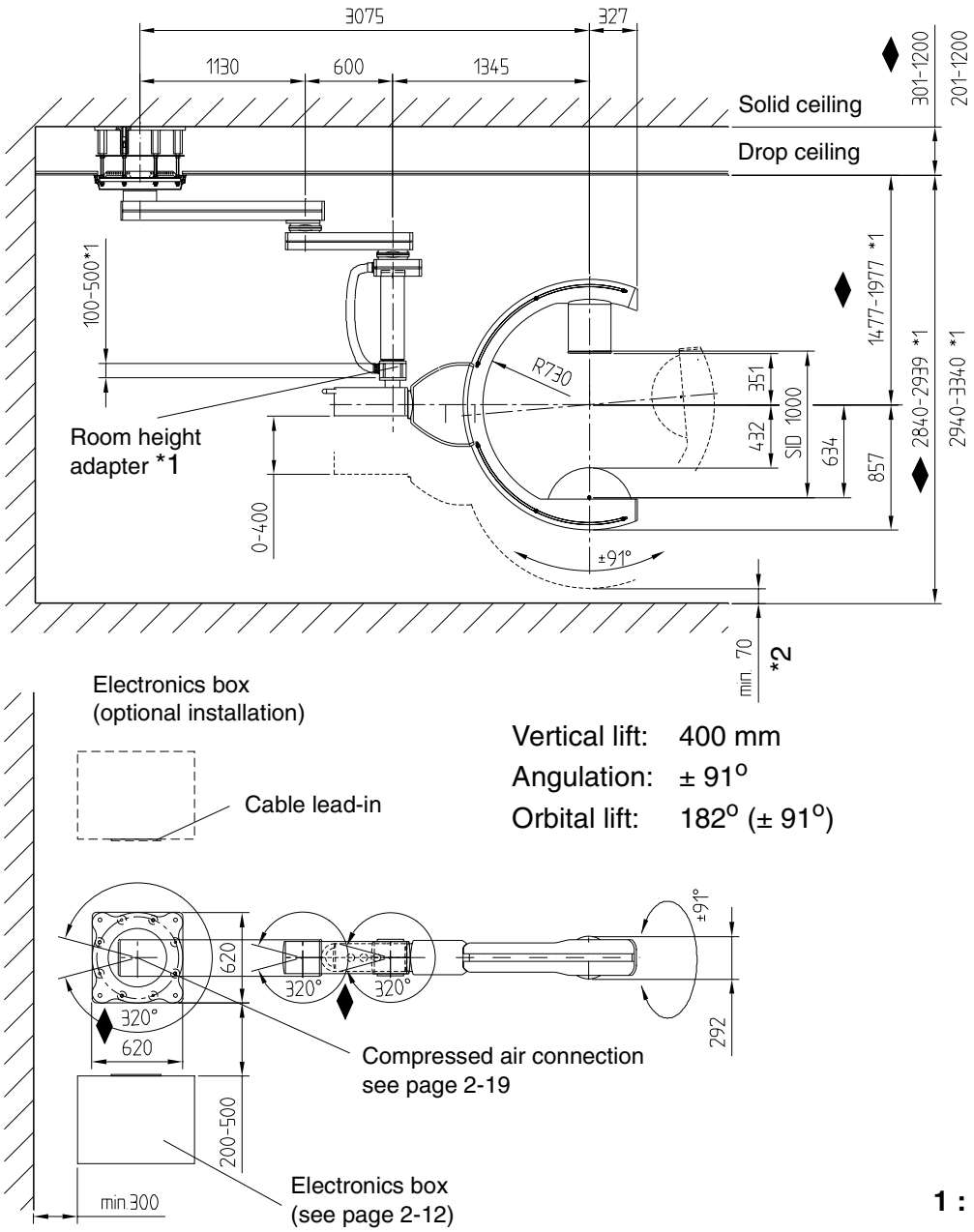
*1 With room height adapter (see Note *) between the top surface of the finished floor and the drop ceiling.

*2 The min. dimension of 70 mm absolutely must be maintained in the ARCOSKOP movement range.

NOTE	*** When placing the order, it is absolutely necessary to provide 2 dimensions so that the ceiling height can be prestaged at the factory:** **1.) Solid ceiling dimension (top surface of finished floor - solid ceiling)** **2.) Drop ceiling dimension (top surface of finished floor - drop ceiling)**

Dimensions

Electronics Box Installed at the Side



1 : 50

*1 With room height adapter (see Note *) between the top surface of the finished floor and the drop ceiling.

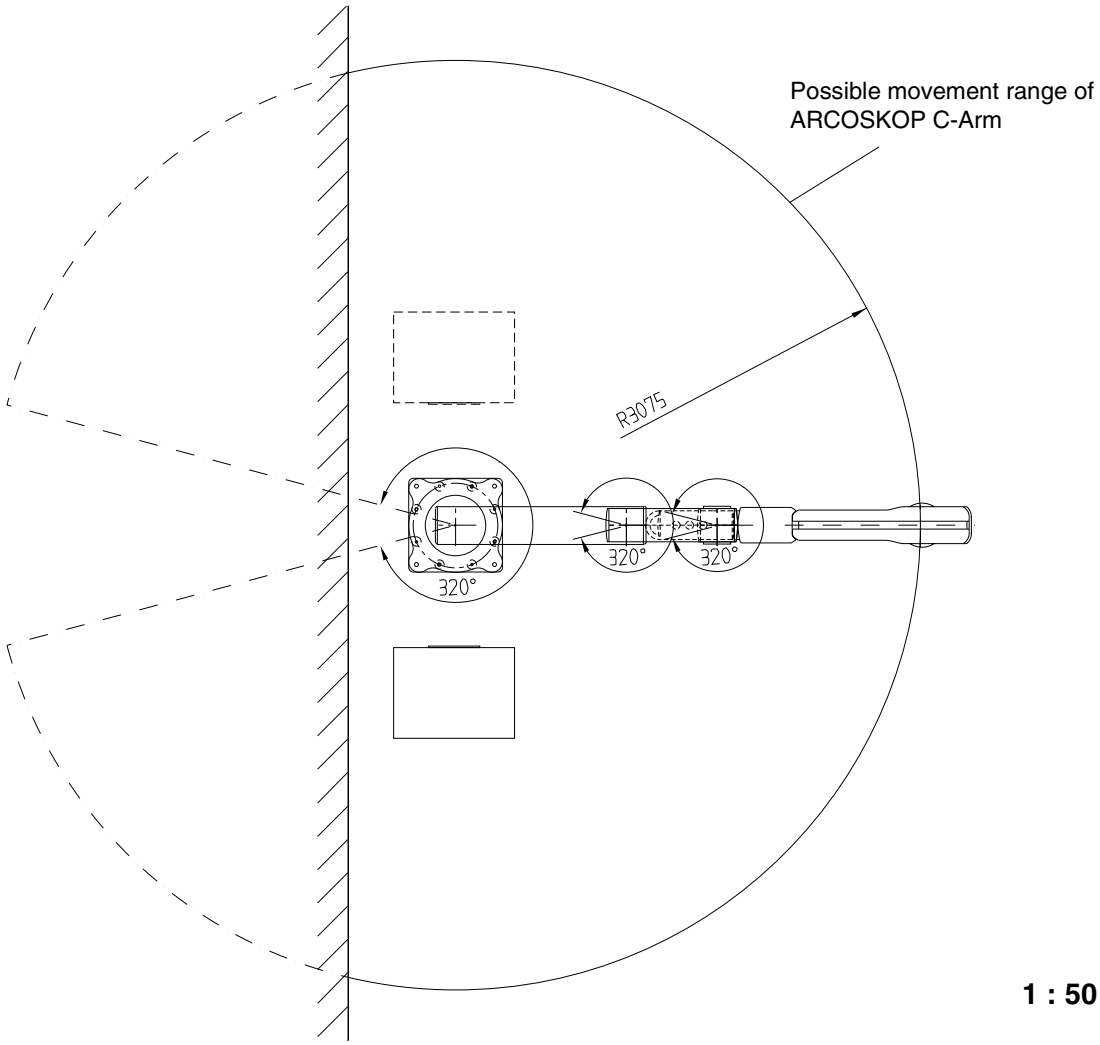
*2 The min. dimension of 70 mm absolutely must be maintained in the ARCOSKOP movement range

NOTE

*** When placing the order, it is absolutely necessary to provide 2 dimensions so that the ceiling height can be prestaged at the factory:**
1.) Solid ceiling dimension (top surface of finished floor - solid ceiling)
2.) Drop ceiling dimension (top surface of finished floor - drop ceiling)

Movement Range

Possible Movement Range of ARCOSKOP C-Arm



1 : 50

NOTE	**Take note of possible collisions in the ARCOSKOP movement range.**

NOTE	**The top surface of the finished floor and the finished ceiling with a horizontal tolerance of ± 5 mm must be taken in to consideration in the ARCOSKOP C-Arm movement range.**

Ceiling Installation (ARCOSKOP)

NOTE

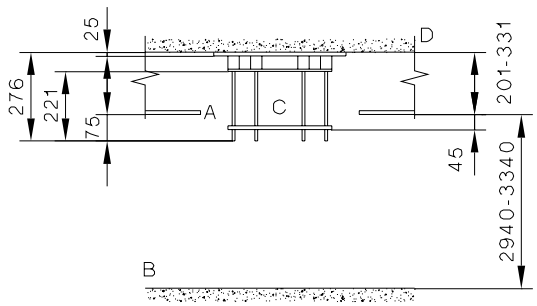
The distances between

- the top surface of the finished floor and the drop ceiling,
- the top surface of the finished floor and the solid ceiling

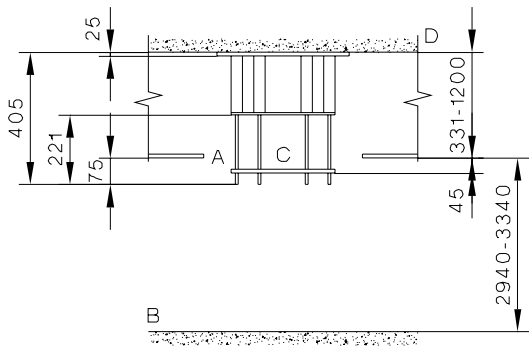
must be provided for the room height data in the "Site Inspection List". Room height adaptation is made at the factory per the following possible height data.

Distance from 2940 mm 3340 mm

Kit 2940-3340 Minimum



Kit 2940-3340 Standard



A = Drop ceiling
B = Top surface of finished floor
C = ARCOSKOP (stand flange)
D = Solid ceiling

- Kit 2940-3340 mm is used for the following dimensions and is installed at the factory
  - for the bottom surface of the drop ceiling of 2940 to 3340 mm (**A** to **B**)
- The ARCOSKOP stand flange (**C**) is located under the drop ceiling with the Kit 2940-3340 mm.

NOTE

If the distance between the solid ceiling and the bottom surface of the drop ceiling is more than 1200 mm, a ceiling subconstruction must be built on site! (see page 3-5)

- If there is a lesser distance (< 270 mm) between the solid ceiling (**D**) and the bottom surface of the drop ceiling, pay attention the installation depth of the electronics box!
  - Installation dimension of the electronics box corresponds to page 2-12 and page 2-13
  - Distance between the top of the first ARCOSKOP support arm and the drop ceiling: 180 mm

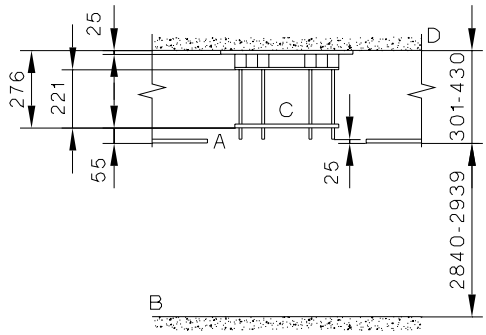
NOTE

Beginning with a distance of 270 mm or less (see page 2-13) between the solid ceiling and the bottom surface of the drop ceiling, the electronics box must be installed outside of the ARCOSKOP working range and of the park position!

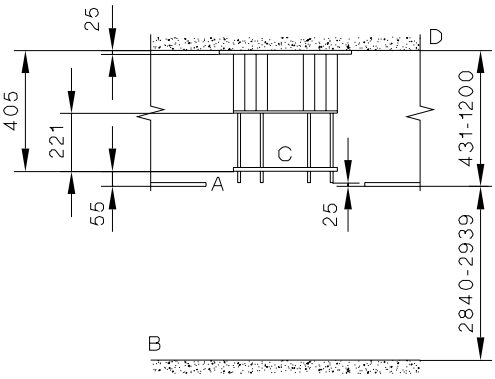
Ceiling Installation (ARCOSKOP)

Distance from 2840 mm to 2939 mm

Kit 2840-2939 Minimum



Kit 2840-2939 Standard



A = Drop ceiling
B = Top surface of finished floor
C = ARCOSKOP (stand flange)
D = Solid ceiling

- Kit 2840-2939 mm is used for the following dimensions and is installed at the factory
  - if the bottom surface of the drop ceiling is 2840 to 2939 mm (**A** to **B**)
- The ARCOSKOP stand flange (**C**) is inside the drop ceiling with Kit 2840-2939 mm.

NOTE

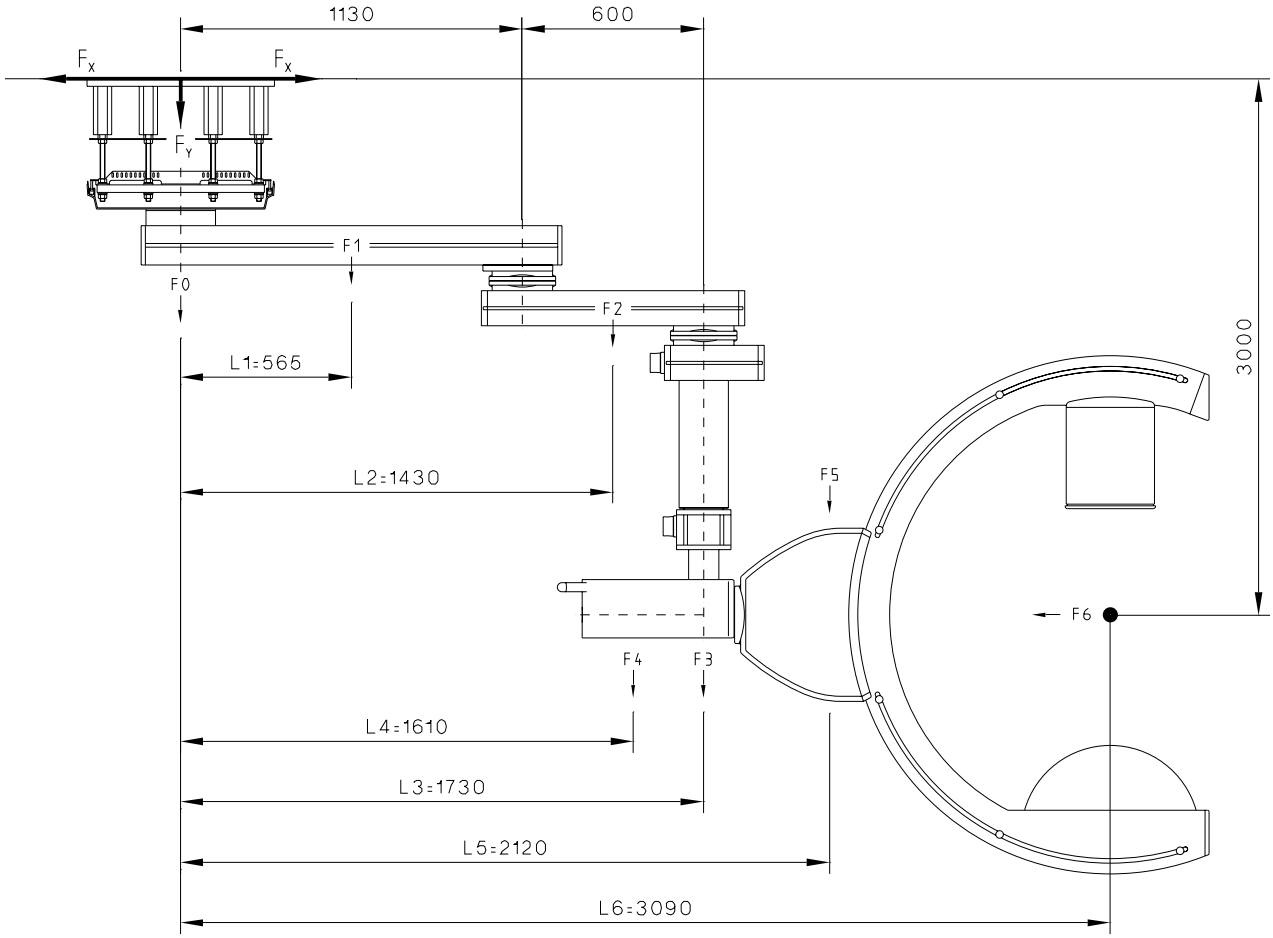
If the distance between the solid ceiling and the bottom surface of the drop ceiling is more than 1200 mm, a ceiling subconstruction must be built on site! (see page 3-5)

- If there is a lesser distance (< 370 mm) between the solid ceiling (**D**) and the bottom surface of the drop ceiling, pay attention the installation depth of the electronics box!
  - Installation dimension of the electronics box corresponds to page 2-12 and page 2-13
  - Distance between the top of the first ARCOSKOP support arm and the drop ceiling (**D**): 80 mm

NOTE

Beginning with a distance of 370 mm or less (see page 2-13) between the solid ceiling and the bottom surface of the drop ceiling, the electronics box must be installed outside of the ARCOSKOP working range and of the park position!

Ceiling Load and Torque



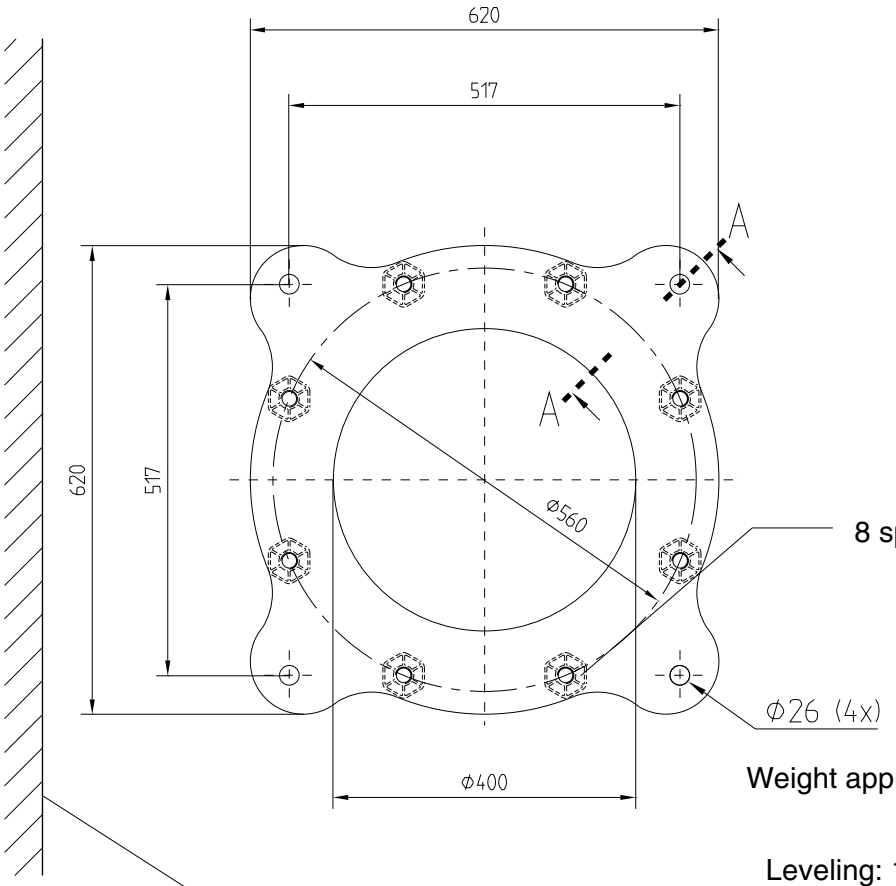
The load capacity of the ceiling/ceiling subconstruction must be verified by a Struct. Engineer.

The on-site preinstallation with a ceiling-suspended ARCOSKOP may be made only after first confirming the load capacity of the ceiling / ceiling construction. The weight load capacity of the spaces above the ARCOSKOP must also be taken into consideration.
Use the following data for the calculation:
A maximum deflection of the ceiling anchor plate of +/-0.2° degrees for cross loading with a movement of the ARCOSKOP with a fully equipped system is permitted.

Loads
Load on the top bearing: Fy = 390 N, Mb = 6600 Nm
Torque

L	Fx N	Fy N	x	L m	= m(B) Nm
0	800	x 0,0000			= 0
1	480	x 0,5650			= 271
2	260	x 1,4300			= 372
3	300	x 1,7300			= 519
4	350	x 1,6100			= 564
5	550	x 2,1200			= 1166
6	1200	x 3,0900			= 3708

Ceiling Anchor Plate (ARCOSKOP)



Weight approx. 42 kg

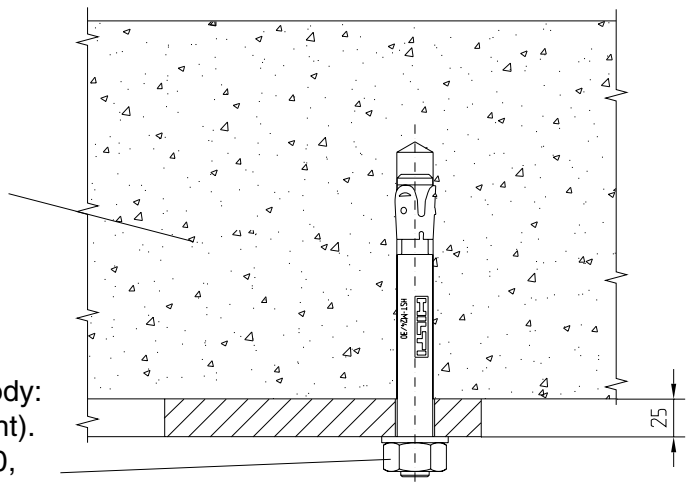
1 : 10

Leveling: 1 mm/m

Install one side of the plate parallel to the adjacent wall

A - A

1 : 5



Solid concrete
≥ B25

Installation note:

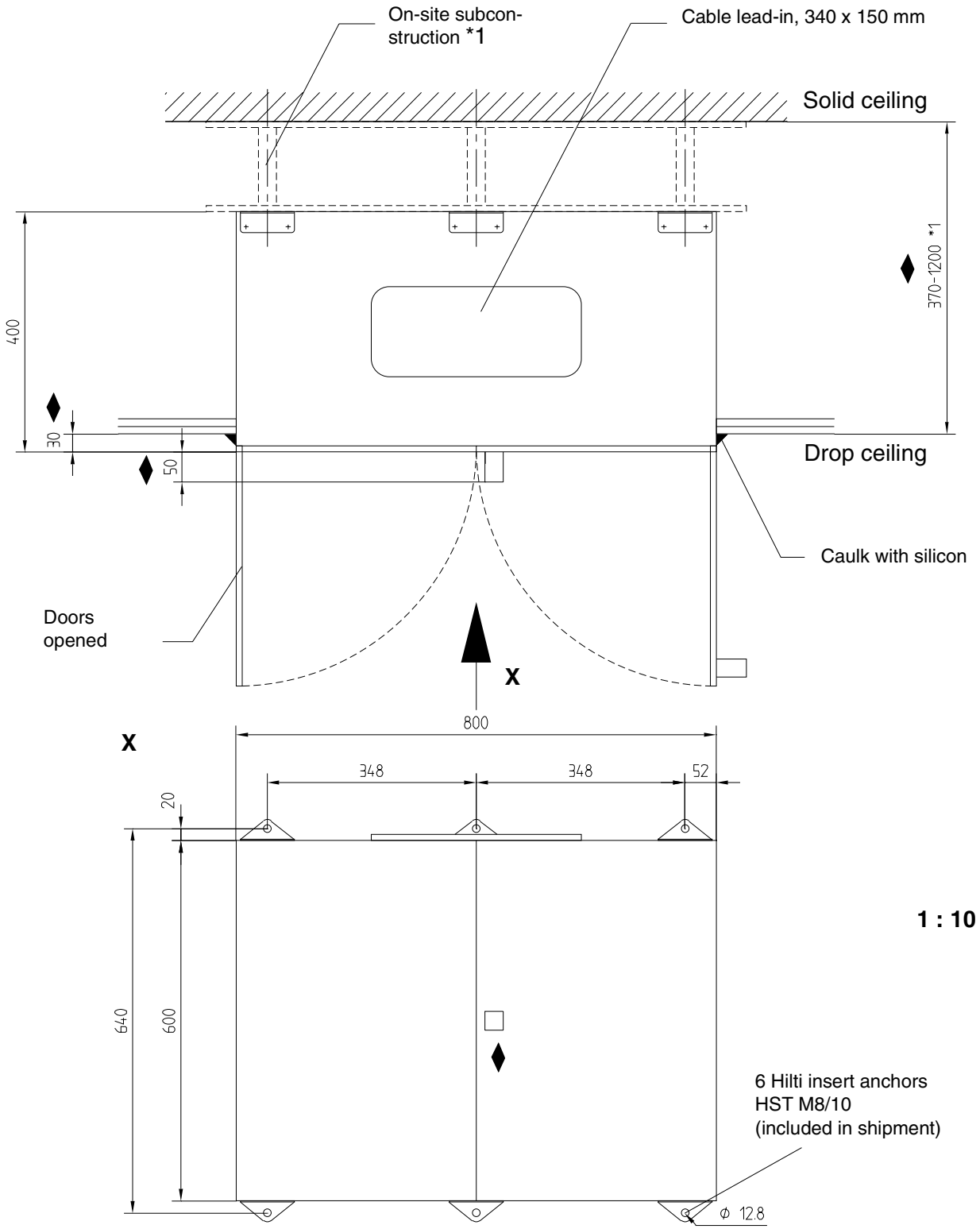
Mounting materials for the mounted body:
4 x insert anchors (included in shipment).
Manufacturer: Hilti model: HST M24/30,
Approval Notice No. Z-21-1-955

Pull forces: 13 kN per anchor

NOTE	**The anchor bolts in the shipment may only be used for ≥ B25 concrete.**

Electronics Box

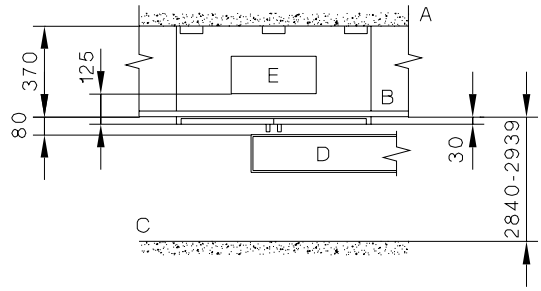
Installation and Dimensions of the Electronics Box



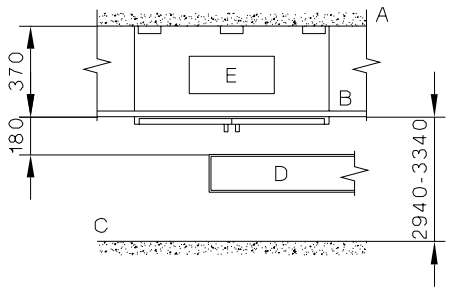
*1 Beginning at > 370 mm, on-site subconstruction is required; M10-8.8 screws are required to mount the electronics box.

Installation Dimensions of the Electronics Box in the Drop Ceiling

Kit 2840-2939



Kit 2940-3340



A = Solid ceiling
B = Drop ceiling
C = Top surface of finished floor
D = ARCOSKOP (top support arm)
E = Electronics box (cable inlet)

1. Room Height 2840-2939 mm

- The distance between the top support arm on the ARCOSKOP and the drop ceiling is 80 mm!
- The electronics box can project out of the drop ceiling a maximum of 30 mm.
- To prevent a collision of the support arm with the electronics box, the minimum distance between the solid ceiling and the drop ceiling of 370 mm must be maintained.

NOTE

If the electronics box is within the movement range or in the park area of the ARCOSKOP, the minimum distance between the drop ceiling and the solid ceiling is 370 mm.

2. Room Height 2940-3340 mm

- The distance between the top support arm on the ARCOSKOP and the drop ceiling is 180 mm!
- The distance from the bottom edge of the cable inlet to the bottom edge of the electronics box is 125 mm.
- The distance from the top edge of the electronics box to the bottom edge of the cable inlet is 275 mm.

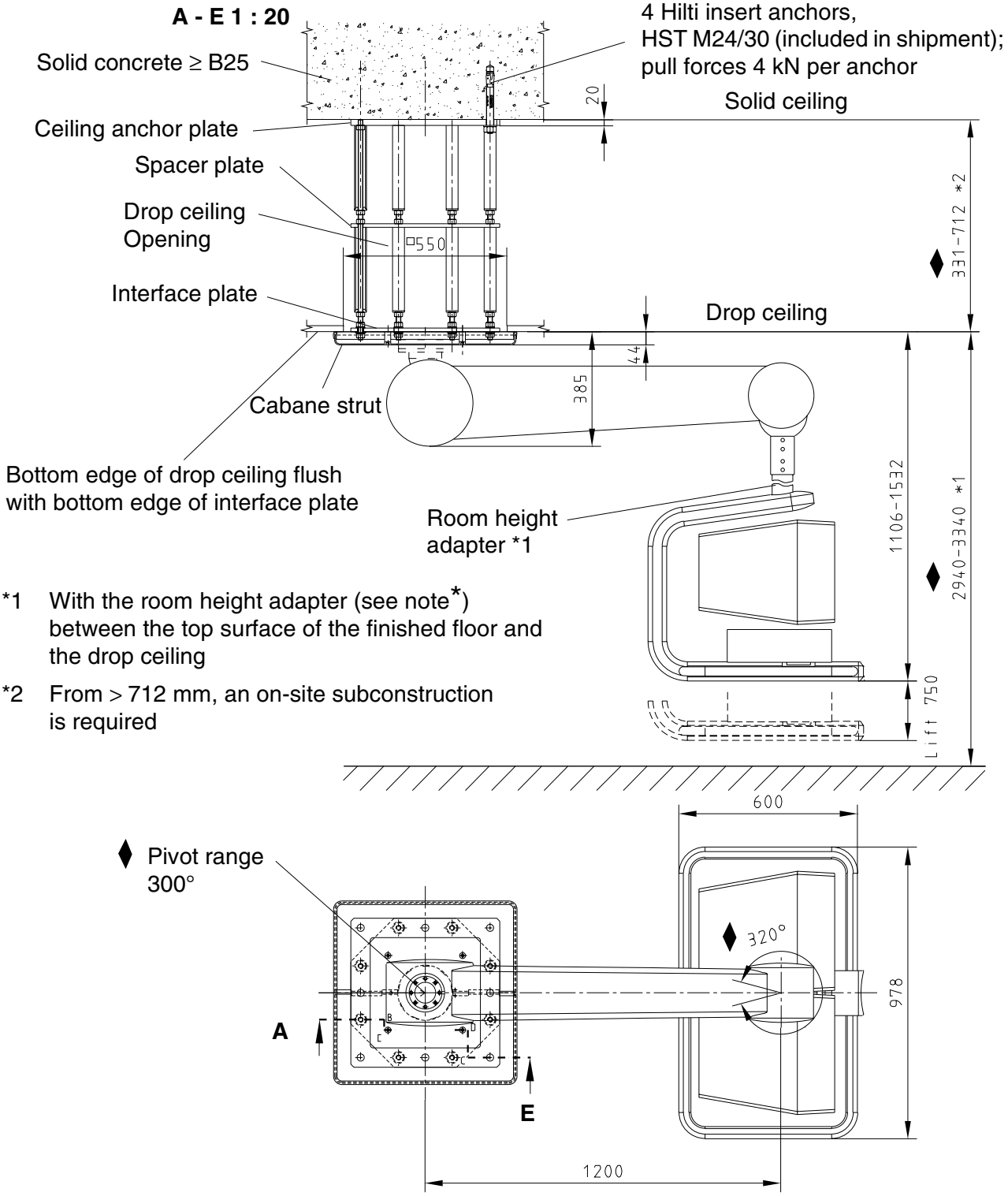
NOTE

If the electronics box is within the movement range or in the park area of the ARCOSKOP, the minimum distance of the drop ceiling to the solid ceiling is 275 mm because of the cables laid in the cable inlet.

NOTE

If the required minimum distance between the drop ceiling and solid ceiling cannot be maintained, the electronics box must be planned outside the movement range and the park area.

Monitor Stand (Option)



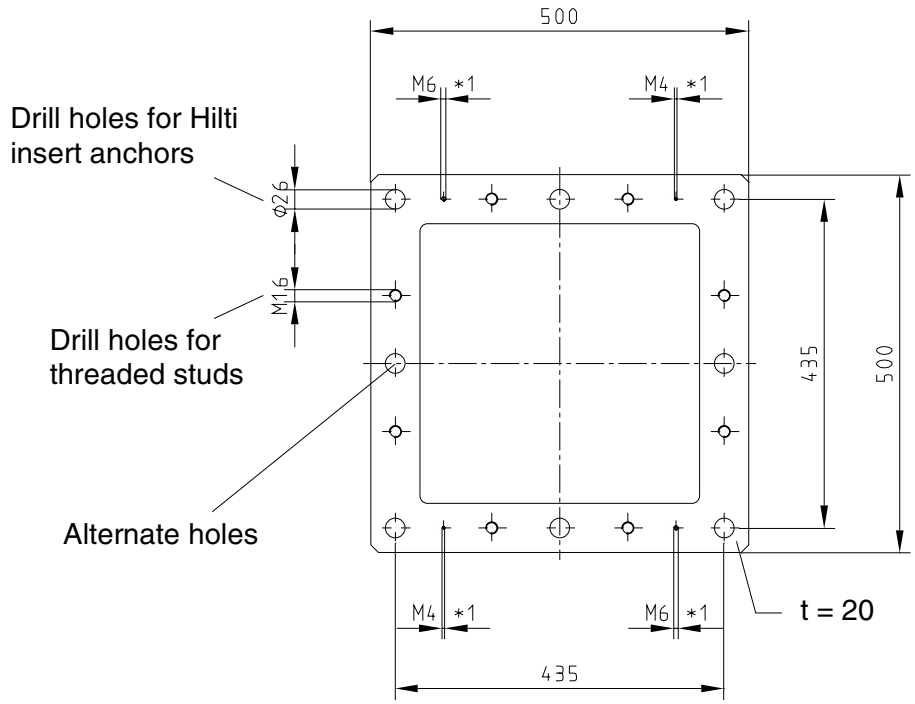
1 With the room height adapter (see note) between the top surface of the finished floor and the drop ceiling

*2 From > 712 mm, an on-site subconstruction is required

NOTE

*** When placing the order, 2 dimensions absolutely must be provided to pre-stage the room height adaptation at the factory:**
1.) Solid ceiling dimension (top surface of finished floor - solid ceiling)
2.) Drop ceiling dimension (top surface of finished floor - drop ceiling)

Ceiling Anchor Plate (Monitor Stand)

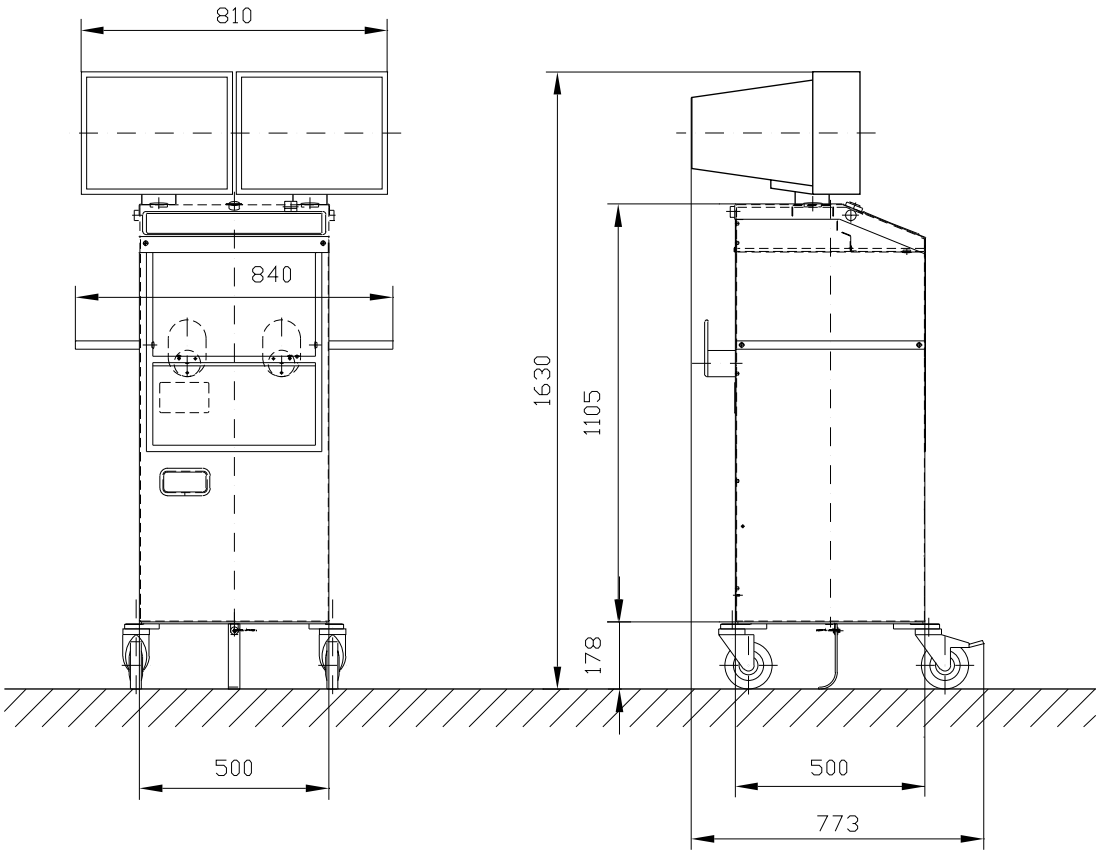


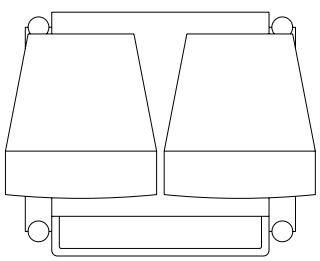
1 : 10

Leveling: 1 mm/m

*1 for grounding screw

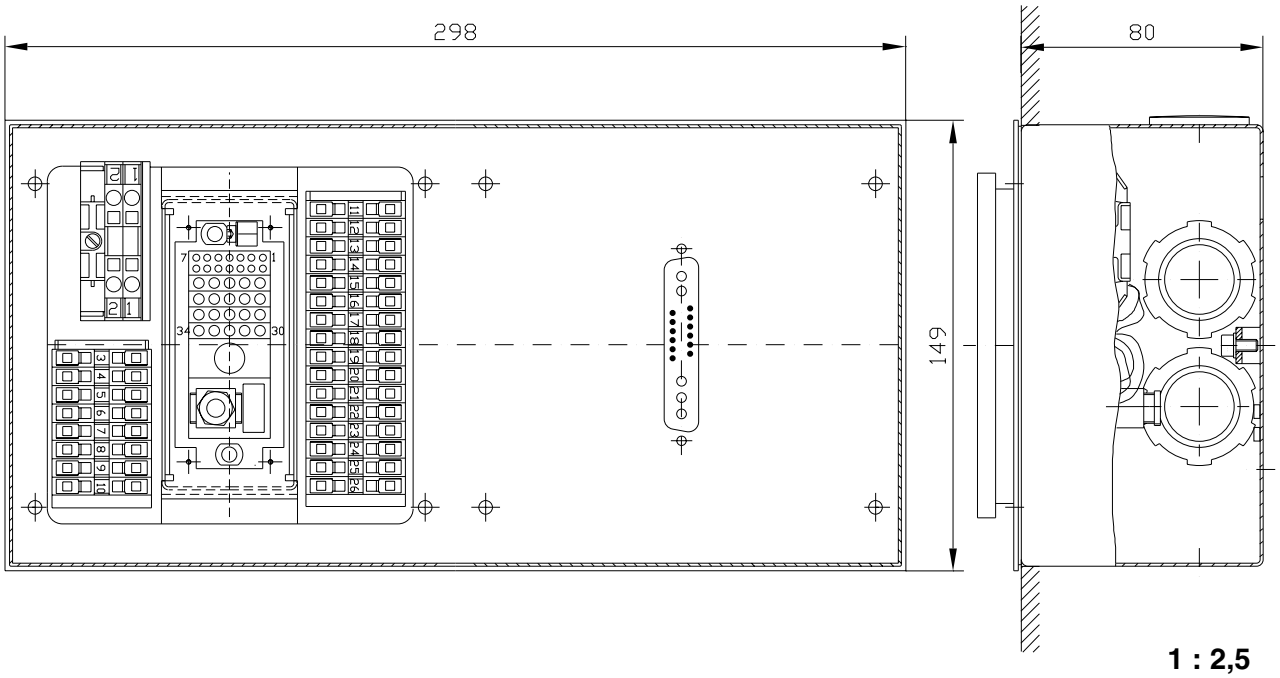
Monitor Cart for the ARCOSKOP





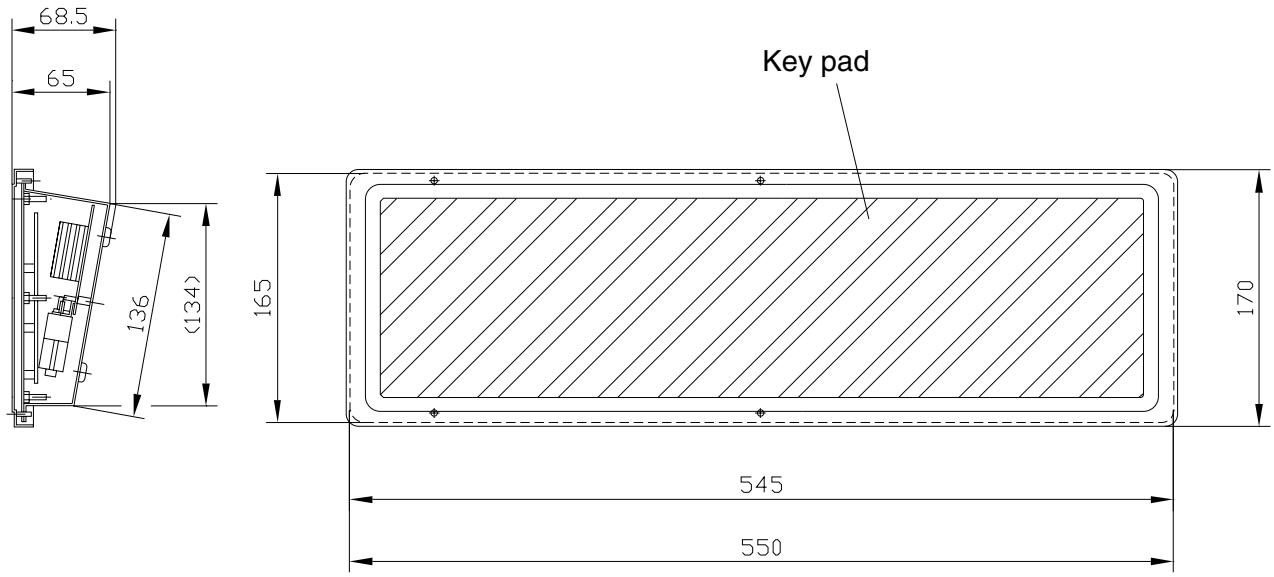
1 : 20

Dimensions of the Dual Wall Power Outlet



1 : 2,5

Dimensions of the Keyboard



1 : 5

Remarks Regarding Room Planning

Anticipated combinations:

Electronics box:

The electronics box is designed for surface installation on the ceiling.

Wall power outlet (WD):

The wall power outlet is designed for flush installation, but can also be surface-mounted.

Monitor cart:

The maximum distance from the wall power outlet is determined by the connection cables to the monitor cart, see Chapter 4, Fixpoint List.

Monitors permanently installed in the room (option):

Additional monitors are installed on a ceiling stand or on rotating tilt consoles.

Additional keyboard:

The additional keyboard can be installed with the monitor trolley system for the ARCOSKOP in the console of the monitor trolley system.
If the additional keyboard is intended for placement on a table, a cable outlet box should be used if the the cables are laid under the table. Alternately, a connector with 9-pole Sub-D connections should be used. The required materials must be obtained locally.

Additional radiation displays (option):

The connection cable, see Overview of Fixpoints, wiring harness number 20 is laid from the electronics box to an on-site installed 24V relay with a maximum coil current of 4 W. This relay switches on a lamp or a power relay.
For example:

A display lamp with the words "RADIATION ON" and a power supply of 230 V is located above the entry door to the examination room.

Because the 24 V in the electronics box are suitable up to 4 W, a 24 V relay with lower power consumption must be provided on site. The contacts for this on-site relay must be designed for the voltage and wattage of the lamp or must control a power relay. On-site cabling and wiring of the relay and lamp must be done by a licensed electrician.

Documentation unit (video printer or multiformat camera, if configured):

The documentation unit (video printer or MULTISPOT 2000) is installed as standard equipment in the monitor cart.

If a documentation unit is used outside of the monitor cart, this must be apparent in the corresponding Planning Guide. The BAS signal must be laid galvanically isolated to the documentation unit. For this, a "Laser camera connector" is required in the monitor cart. The BAS signal to the documentation unit is 1 Vpp.

Remarks Regarding Room Planning

Compressed air connection for ARCOSKOP:

A check valve must be installed in the on-site compressed air line (8mm Cu tubing) to the ARCOSKOP.

An 8.1 mm connector made of brass (installed on the interface plate) is included in the shipment. The on-site Cu tubing should be laid to the connector.

The ARCOSKOP can be operated using industrial compressed air.

The standard national regulations for purity and air quality must be observed for OR rooms.

Use of a compressor for compressed air in the USA:

The compressor, if required, must be ordered along with the preinstallation kit for the ARCOSKOP. This must be confirmed by the Project Manager in the "Site Inspection List".

Our Logistics Department in Erlangen, SP L1, will provide you with support to coordinate the shipment for the preinstallation date. Along with the shipment of the compressor, there is an installation kit, Part No.71 43 386 G5484 for connection to the ARCOSKOP. Connection to the ARCOSKOP is described in the Preinstallation Instructions.

When installing the compressor, the operating instructions of the manufacturer must be observed.

The compressed air outlet dryer and a condensation trap must be installed near the ARCOSKOP, on the wall and must be visible in the room.

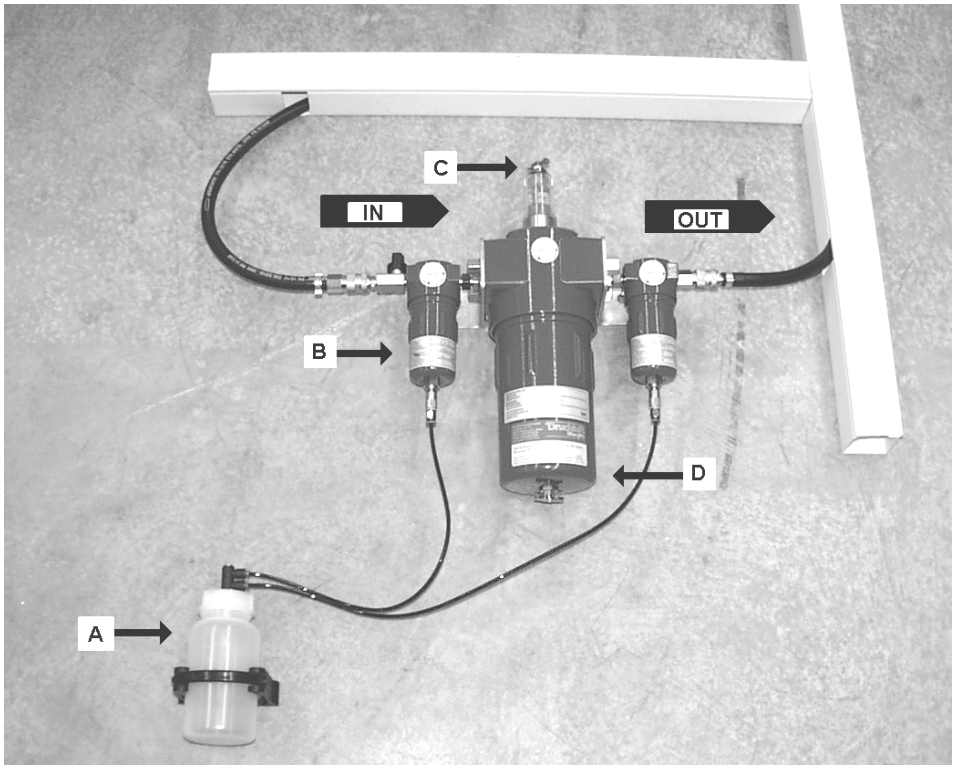
The compressor should be installed in an equipment room that is in the vicinity. A condensation trap is installed near the compressor.

Connection of the compressed air outlet dryer and the condensation trap are made with the compressed air lines included in the shipment.

The technical data for the compressor and the length of the compressed air lines included in the shipment are defined for your planning in Chapter 5. The filters in the compressed air outlet dryer are preset for 5 bar.

The components for the compressed air outlet dryer and for the compressor are labeled in the following 2 illustrations.

Compressed Air Outlet Dryer and Compressor



Compressed air outlet dryer:

A - Condensation trap

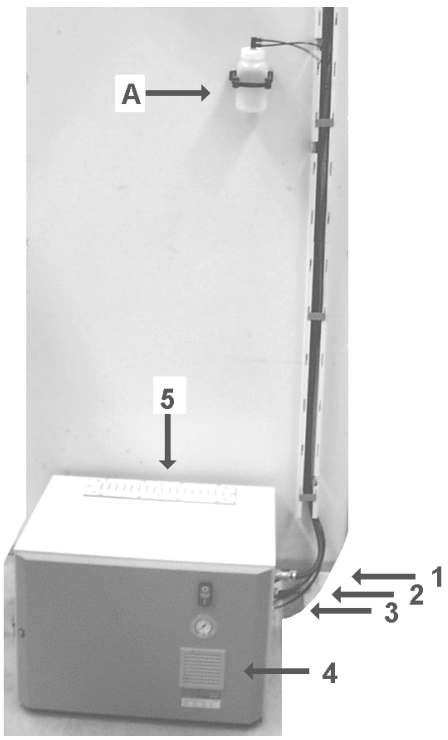
B - Filter

C - Colored ball

D - Filter

IN - from compressor

OUT - to ARCOSKOP



Compressor:

A - Condensation trap

1 - Compressed air connection

2 - Power connection

3 - Condensation trap connection

4 - Air intake vent

5 - Outlet vent

ND Power Outlet

Shipment of the ARCOSKOP is made standard with a CEE/CEKON power connector for 230 V/16 A per IEC DIN EN 60309 - 1/2, see also the following illustration.

The version of the CEKON power outlet (ND), e.g. surface or flush-mounted, must be determined on-site.

If because of country-specific regulations for OR rooms, a different power outlet (ND) must be used on-site, the connector that is included in the shipment must be removed from the ARCOSKOP cable and replaced with a connector that corresponds to the technical specifications in the country-specific regulations.

NOTE **In the USA, a 110 V or 230 V connector is in the shipment as defined in the order (USA standard connection design).**

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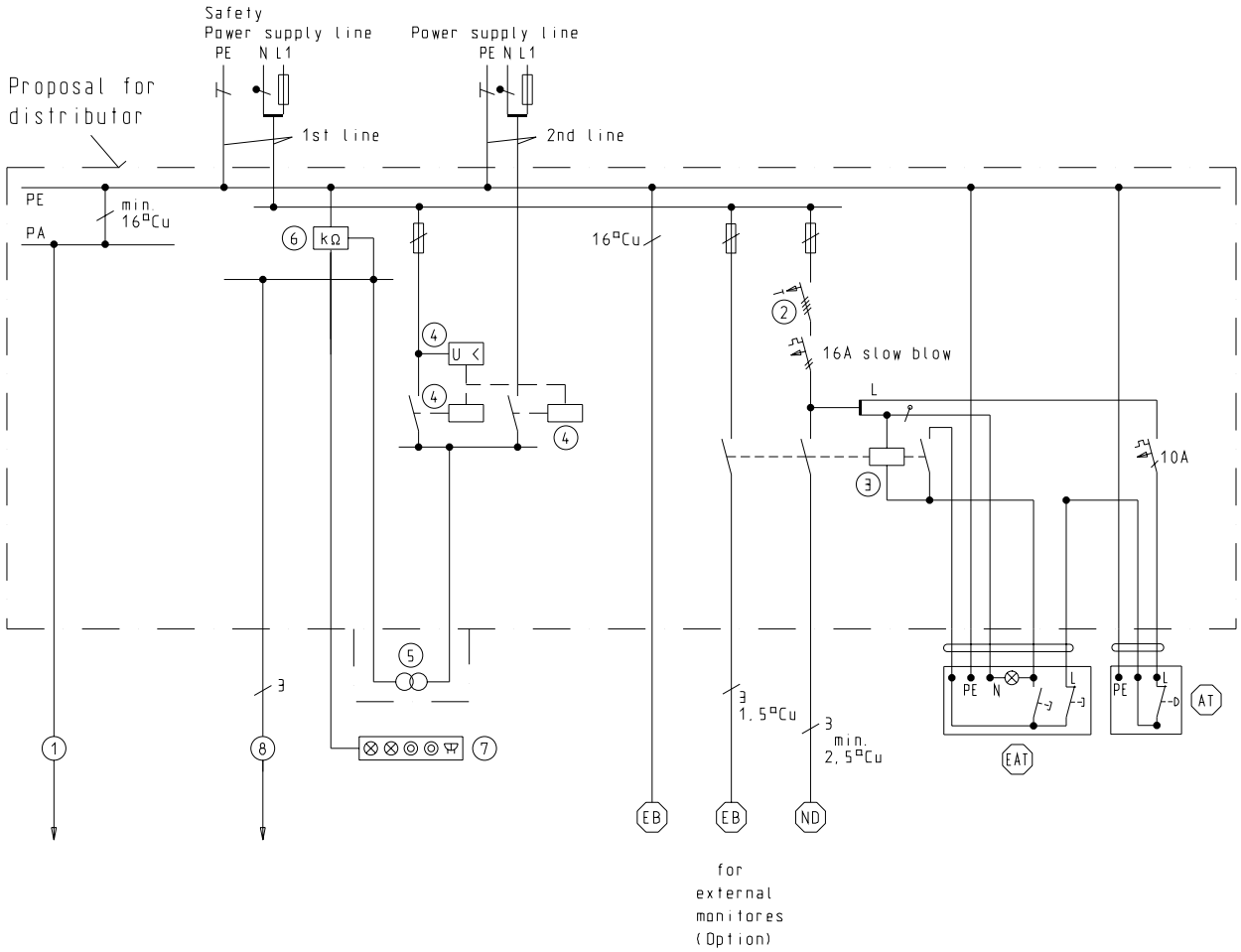
On-site Electrical Installation (Application Group 2)

Recommendation for on-site power distributor per DIN VDE 0107 or national regulations



EAT On-off switch with pilot lamp (with key switch if required locally)

AT Emergency off switch with latching

EB Electronics box

ND Line power connection outlet

1 To external conductive parts

2 GFI switch, 63 A/$I_{\Delta N}$ 30 mA, U_N = 400/415 V ~

3 System breaker

4 Voltage monitoring and switch-over device per DIN VDE 0107

5 Isolation transformer with overload monitoring

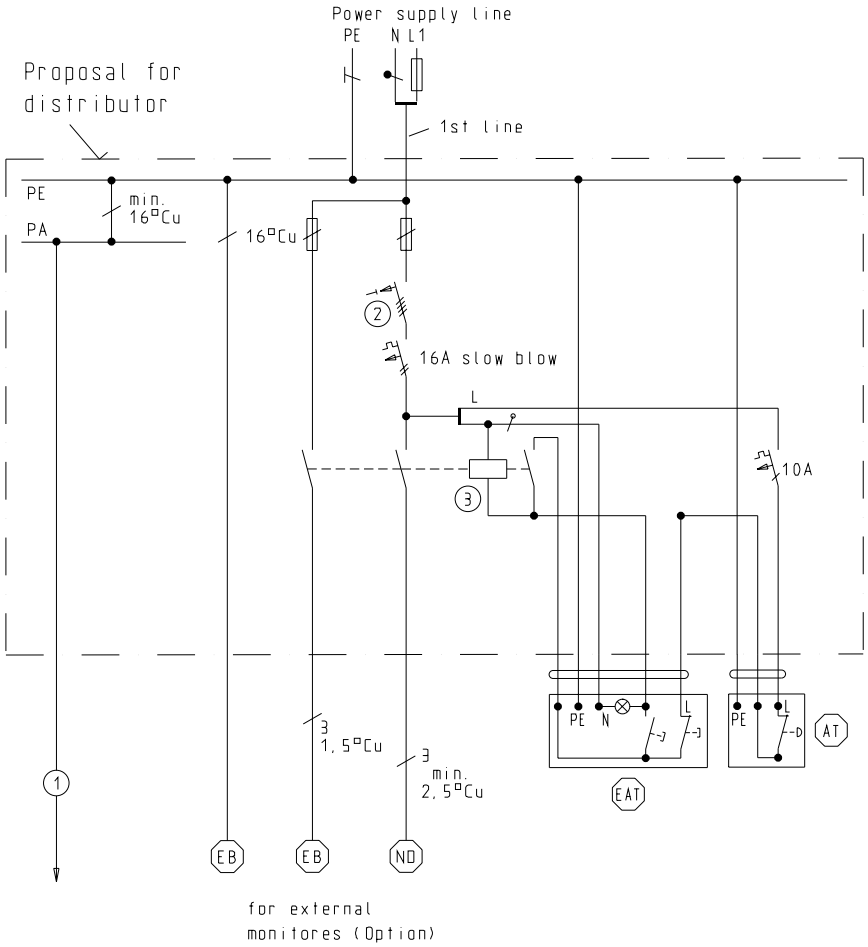
6 Isolation monitor

7 Signal combination

8 Electrical consumers, fixed and moveable, e.g.

On-site Electrical Installation (Application Group 1)

Recommendation for on-site power distributor per DIN VDE 0107 or national regulations



EAT On-off switch with pilot lamp (with key switch if required locally)

AT Emergency off switch with latching

EB Electronics box

ND Line power connection outlet

1 To external conductive parts

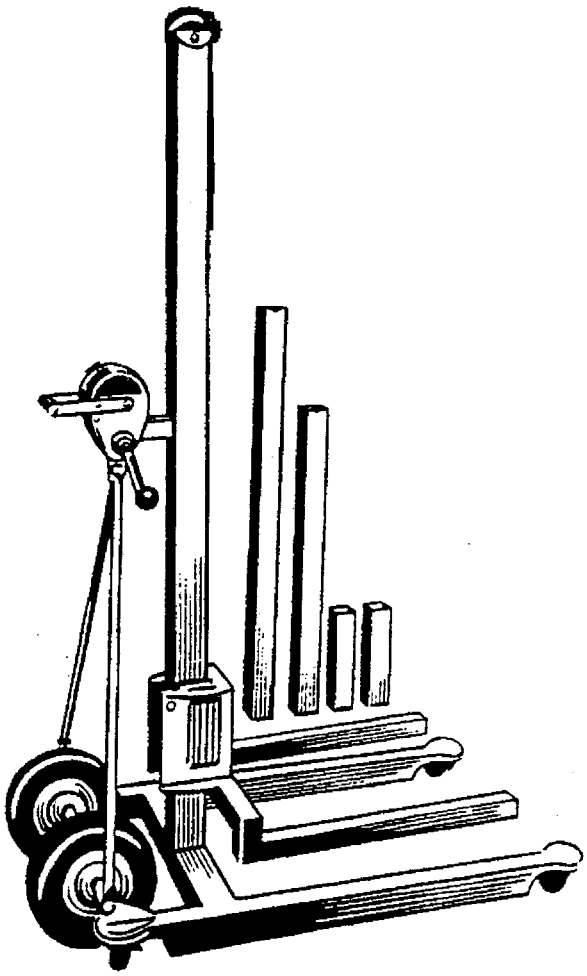
2 GFI switch, 63 A/I $_{\Delta N}$ 30 mA, U_N = 400/415 V ~

3 System breaker

Installation Aids for Stand and Electronics Box

(not included in the shipment)

Load lifting device, up to 225 kg; lifting height up to 3.60 m



Contact person for purchase:

Vydra + Herr GmbH
Verkaufshaus Stuttgart
Hr. Otto
D 70176 Stuttgart
Tel.: + 49 (0) 66981 - 0
Fax.: + 49 (0) 66981 - 50
E-Mail: post@vydra.de

Contact person for loan: ♦

Siemens Medical Solutions
SC ML P
Herbert Engels
D 91052 Erlangen
Tel.: + 49 (0) 9131 84 2412
Fax: + 49 (0) 9131 84 9779
E-Mail: herbert.engels@siemens.com

Preinstallation Note

Appropriate preinstallation kits can be provided following discussion with Logistics, SP L1 in Erlangen for installation preparation of the ARCOSKOP (and of the monitor trolley system, if configured).

Their on-site availability is the responsibility of the customer.

For safety reasons, and for technically correct performance, we recommend that preinstallation be performed by one of the following companies. Proper preinstallation must be monitored and verified by the Project Manager.

Worldwide

Kreuzer Co.

Landesniederlassung
Kreuzer GmbH + CO KG
Benzstr. 26
D 82178 Pochheim

Tel.: + 49(0)89/809070
Fax: +49(0)89/8090720

Europe

Hansen Co.

H. Hansen
Im Ozles 25
96193 Wachenroth

Tel.: +49(0)9548/92240
Fax: +49(0)9548/922424

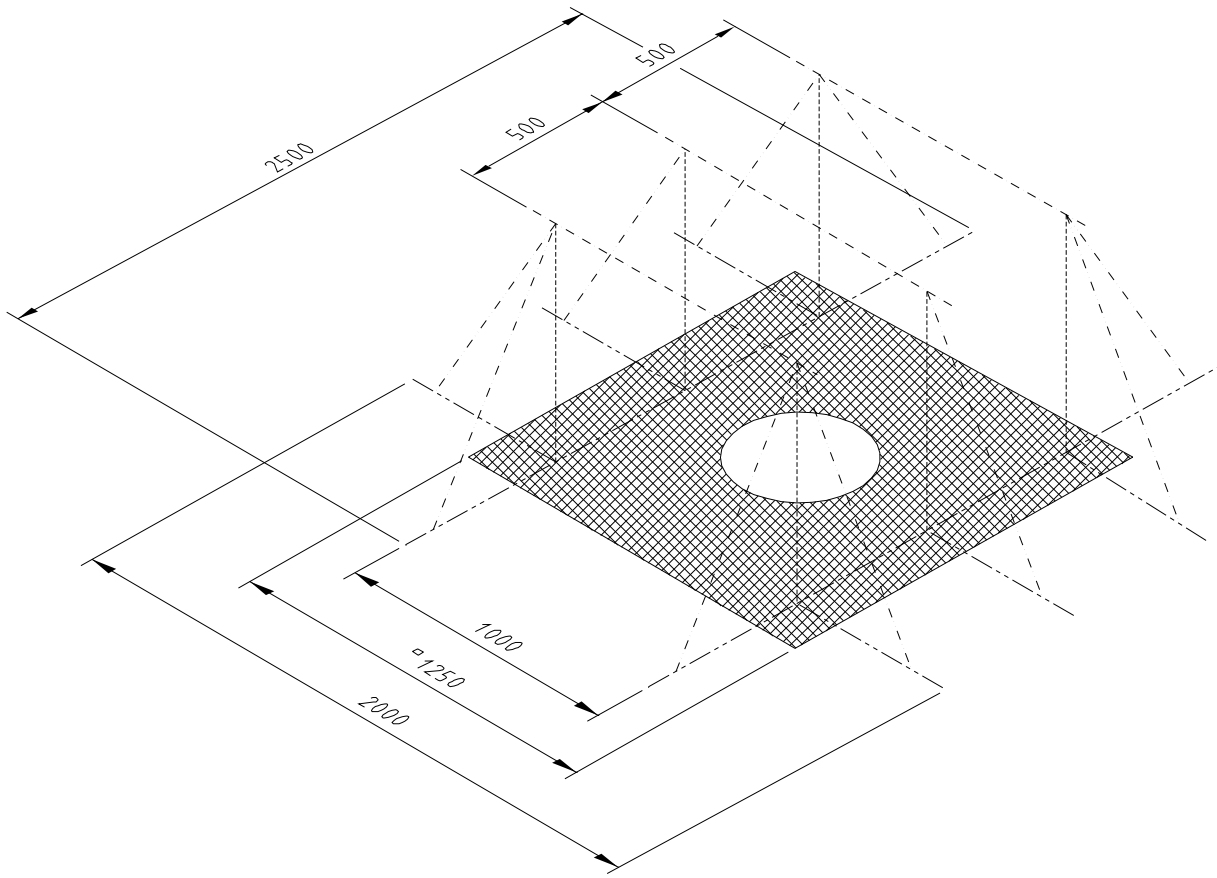
NOTE

The Preinstallation Instructions are available on the Intranet under: www-td.med.siemens.de/Product Information/SP Systems/Surgery/Arcoskop/CB-DOC/Installation/System.

The Preinstallation Checklist in the Preinstallation Instructions must be filled out before installation of the ARCOSKOP is begun.

Schematic Illustration for ARCOSKOP Subconstruction

(non included in the shipment)



	Base plate
	Support element
	Reinforcement
	Basic support on the ceiling
	Threaded studs

The on-site subconstruction can be ordered from the company MSR Röntgenraumtechnische Systeme, under the designation "ARCOSKOP Ceiling Subconstruction" as

- Installation kit (with installation instructions)
- Installation kit with supervisor
- Complete installation by the MSR Company

When ordering, the dimension between the ceiling anchor plate (surface kit) to the solid ceiling must be provided.

Address: MSR Röntgenraumtechnische Systeme GmbH

Auf dem Wehrt 36	Tel.:	+49(0)6597/9537-0
D-54584 Jünkerath	Fax.:	+49(0)6597/4844
	E-Mail:	info@msr-roentgentechnik.de

Services Provided by the Service Contractor

Room preparations that must be completed before the service contractor begins installation:

- The Project Manager must be present prior to arrival of the service contractor.
- The project plan is available and on-site.
- Preinstallation is completed per the Preinstallation Instructions and is documented in the certificate in the Preinstallation Instructions.
- The preinstallation kit is adjusted in accordance with the Preinstallation Instructions.
- Wall power outlet and electronics box are installed per the Project Plan.
- The cables are laid per the cable list in the Preinstallation Instructions.
- Line power and compressed air are available.
- The system emergency off switch is installed on-site.
- All on-site room preparations are completed and the room is swept clean.

➪ **All work must be performed in accordance with the documents provided.**

Bringing the System into the Room:

- An agreement on topics pertaining to bringing the system into the room must be made in advance with the Project Manager: site inspection, floor load capacity, crane, secure storage areas, aids, etc.
- One large or two small hydraulic hand trucks are needed.
- Bringing the system components into the room on pallets and a check for damage.

Installation:

- Bring along all required installation aids (see Preinstallation / Installation Instructions).
- Install the stand, C-Arm and electronics box and perform any adjustment per the installation instructions included in the shipment.
- Unpack the monitor cart according to the instructions included in the shipment.
- Perform the stand joint adjustment per the Installation Instructions and the on-site circumstances.
- Install all optional monitors and install the control panel.

System Cabling:

- Lay the cables from the C-Arm to the electronics box and from the wall power outlet to the electronics box per the installation instructions.
- Enter the cables in the cable list per their color or coding.
- Connect the inhouse cables in the electronics box.
- Perform a ground wire measurement and record the results.
- Install all cover panels.
- Cable all optional monitors and control panels.

Other Work Steps:

- Install cable channels and clamps (if necessary).
- Clear up and clean the installation room (swept clean).
- Return all packaging materials.
- Report any damage to the building caused by the work to the Project Manager.
- Fill out the Installation Certificate for Service Contractors, have it signed by the Project Manager/ person responsible for the project, and send it to CS PS 3.
- A copy of the Installation Certificate should remain with the system in the System Binder.
- Make an installation report with remarks regarding the following points:
  Difficulties encountered in bringing the system into the room, production errors, potential improvements, other incidents.

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Remarks Regarding Laying Cables

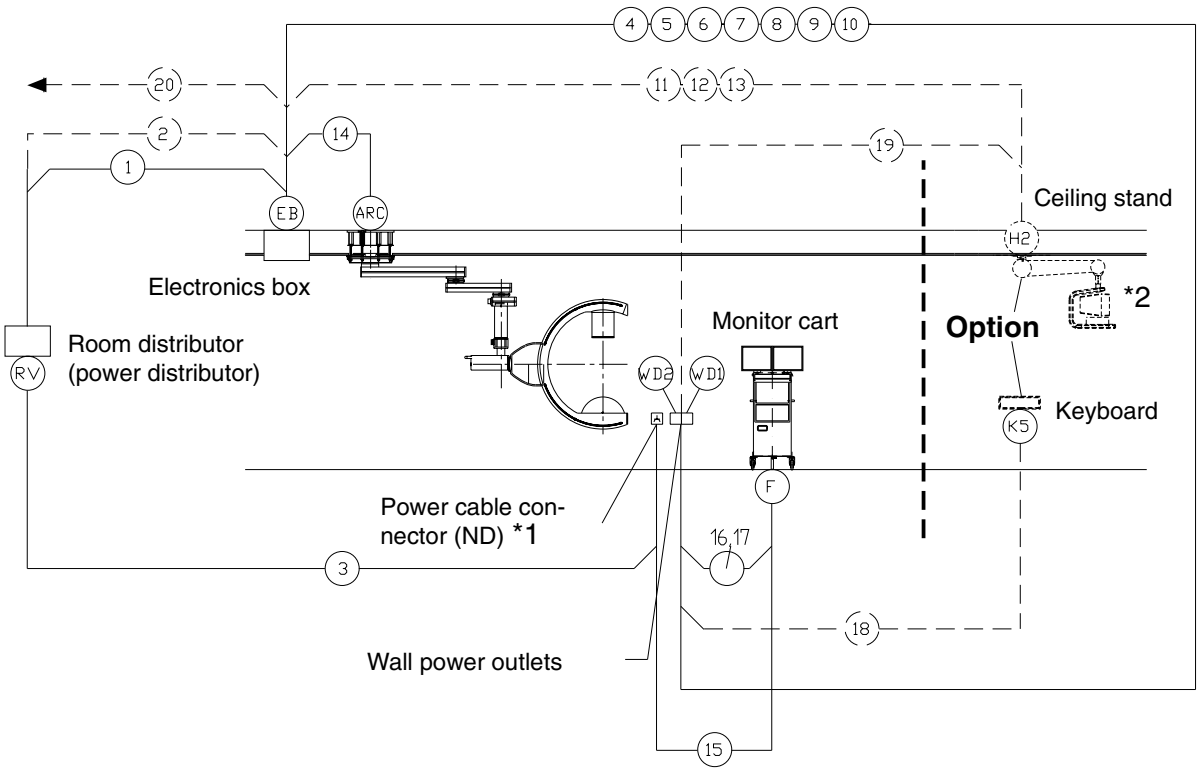
EMI-protected Cabling

Lay the high voltage cables and power cables separately from signal cables and video cables (if possible, provide shielding measures).

Recommendation Regarding Laying Cables

- Lay in separate conduits
  - The minimum diameter can be taken from the cable list, column "Minimum Diameter"
  - The cable with the largest connector must be laid as the first cable.

ARCOSKOP, Overview of Fixpoints



*1 See page 2-21

*2 Additional monitors can also be installed on rotating tilt consoles (option).
Connection is made to the wall power outlet (WD) and the electronics box (EB) is the same as for the ceiling stand.

ARCOSKOP, Fixpoint List

Wiring harness No.	from Fix-point	to Fix-point	Cable channel cross-section in mm^2	Conduit, dia. in inches	Minimum diameter in mm	Maximum fixpoint dis-tance in m	Remark
1	RV	EB	125	1/2	Ø 10	—	16 mm^2 Gnd ground wire (on-site)
2	RV	EB	500	3/4	Ø 20	—	NK 3 x 1.5 mm^2 *3 power cable (on-site)
3	RV	ND	—	—	—	—	Power cable *2 (on-site)
4	EB	WD1	125	1/2	Ø 10	12	6 mm^2 ground wire *4 wall outlet ground wire Part No. 15 88 651
5	EB	WD1	500	3/4	Ø 20	12	NK 3 x 4 mm^2 *4 Generator power cable Part No. 34 62 728
6	EB	WD1	125	1/2	Ø 10	12	NK 3 x 1.5 mm^2 *4 power supply Part No. 20 27 910
7	EB	WD1	500	3/4	Ø 20	12	NK 4 x 0.75^2 *4 System on/off Part No. 20 27 431
8	EB	WD1	125	1/2	Ø 10	12	4 x (2 x 0.14 mm^2) *4 signal cable, shielded Part No. 34 51 077
9	EB	WD1	500	3/4	Ø 20	12	NK 2 x 0.75 mm^2 *4 radiation display Part No. 20 27 746
10	EB	WD1	500	3/4	Ø 20	12	Triax Ø 7.5 mm, *4 BAS signal for camera Part No. 15 86 796
11	EB	H2	125	1/2	Ø 10	18	6 mm^2 gnd wire *3, *4 Monitor block gnd wire
12	EB	H2	500	3/4	Ø 20	18	2 x 0.75 mm^2 *3, *4 Monitor block radiation display
13	EB	H2	500	3/4	Ø 20	18	NK 3 x 1.5 mm^2 *3, *4 Monitor block
14	EB	ARC	—	—	—	—	Preinstalled cables (with connectors)
15	ND	F	—	—	—	7	Power cable *1 (monitor cart)
16	WD1	F	—	—	—	7	Monitor cable*1 (monitor cart)
17	WD2	F	—	—	—	4	TV cable *1,*3 (monitor cart)

Wiring harness No.	from Fix-point	to Fix-point	Cable channel cross-section in mm^2	Conduit, dia. in inches	Minimum diameter in mm	Maximum fixpoint distance in m	Remark
18	WD2	K5	125	1/2	Ø 10	18	4 x (2 x 0.16 mm^2) *3, *4 signal cable
19	WD2	H2	2 x 500	3/4	Ø 20	18	2 x Triax Ø 7.5 mm 75 Ω *3, *4
20	EB	Relay 24 V	500	3/4	Ø 20	—	2 x Ø 1.5 mm signal cable, on-site, for ext. radiation display, e.g. above entrance door to OR

*1 Included in the items in the shipment

*2 See page 2-21

*3 Option

*4 Part of the ARCOSKOP Preinstallation Kit

NOTE **All cables are flexible design, see Intranet in the ARCOSKOP Preinstallation Instructions, chapter 1, "Items Included in Preinstallation Kit".**

List of Fixpoints Used

Fixpoint	Subsystem	Remark
ARC	ARCOSKOP	Ceiling fixpoint
EB	Electronics box	Ceiling fixpoint
F	Monitor cart	Floor fixpoint
H2	Ceiling stand	Ceiling fixpoint
K5	Keyboard	see page 2-16
RV	Room distributor (power distributor)	Wall fixpoint
ND	Power outlet	Wall fixpoint
WD	Wall power outlets	Wall fixpoint

Electrical Data

	Power Line Connection V	Fusing (internal) A	Internal Line Resistance Ω	Power Consumption kVA
ARCOSKOP	100/110/120/127/ 200/230/240 ± 10% 50/60Hz, ± 1Hz	15 slow blow, beginning at 200 V 20 slow-blow up to 127 V	≤ 0.30 (100/110/120/127 V) ≤ 0.80 (200/230/240 V)	long-term: 0.4

If there are differences in the power line voltages, an on-site pre-transformer is required.

Weights and Heat Dissipation

	Weight [kg]	Heat Dissipation[W]
ARCOSKOP	approx. 470	approx. 600
Electronics box, complete	approx. 85	
Monitor cart (2 monitors)	approx. 200	approx. 600
Monitor stand (2 monitors)	approx. 200	approx. 250

Environmental Conditions

ARCOSKOP	Operation	Transport / Storage
Adm. ambient temperature	+ 10° C ... + 37° C	- 20° C ... + 37° C
Adm. rel. humidity	15% ...75%	10% ... 100%
Adm. air pressure	700 hPa...1060 hPa	700 hPa...1060 hPa

Packaging and Transport Routes

Largest crate	L 2300 x W 850 x H 2040 mm
Heaviest single item	approx. 330 kg, without packaging approx. 430 kg, incl. packaging
Min. door opening, height and corridor width for transport (without packaging)	850 mm door opening width, 1990 mm door height 2500 mm corridor width
Min. freight elevator side (without packaging)	L 2500 mm x W 880 mm x H 1990 mm

Pneumatics

Compressed air connector for stand	5 bar, ±10% (72 Psi, ± 10%) 20 l /min (1220 inch ^{3}/min)

Paint Colors

Primary color	White textured, Med surface No. 4146, similar to RAL gray-white 9002
For information about spray cans and paint sticks, see Project Manager Handbook (PMH), chapter 1	

Compressor

Type	Power Line Connection V	Fusing A	Pressure max. bar/Psi	Preset bar/Psi	Noise Level db	Power Consumption kVA
	115, ±10% 60Hz, ±1Hz	10	8/120	5/72, +/- 10%	< 50	0.4

	Dimensions B/H/T	Weight kg	Power Line Connection m	Compressed Air Line Compressor / Terminal Dryer m	Compressed Air Line, Terminal Dryer/ ARCOSKOP m
	650/430/570	48	5	30	5

Chapter	Page	Change
0 - 6		Rev. level of entire document increased from 04 to 05.
2	2-1	New page added, resulting in a shift of the following pages.
2	2-2 to 2-4	Illustration, text and dimension for height updated; number of room planning examples updated.
2	2-5 and 2-6	Dimensions and text updated.
2	2-7	Movement range, new page added
2	2-8 and 2-9	Ceiling installation (ARCOSKOP), new pages added.
2	2-10	Ceiling load and torque, new page added, Speed Info SP007/2001 integrated.
2	2-11	Ceiling anchor plate updated.
2	2-12	Electronics box and text updated.
2	2-13	Installation dimensions of the electronics box above the drop ceiling, new page added.
2	2-14	Monitor stand (option), pivot range and dimensions updated.
2	2-16	Illustration updated.
2	2-21	Note text added.
3	3-3	Contact person updated.
3	3-5	Schematic illustration for ARCOSKOP on-site subconstruction, new page added, resulting in a shift of the following pages
4	4-4	Note text updated.
6	6-1	Changes to Previous Version updated.

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